

REMARKS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments and the following remarks.

The Examiner has objected to the Information Disclosure Statement. An additional information disclosure statement will follow.

The Examiner has objected to the Oath/Declaration. A new oath/declaration will be filed later separately.

The Examiner has objected to the drawings. New corrected FIG. 2 is enclosed. A marked up copy is also enclosed. In addition, the specification has also been amended to overcome the rejection to the drawings.

The Examiner has objected to claims 22, 42, and 43. New corrected claims 22, 42 and 43 are enclosed and amended to overcome this objection.

The Examiner has rejected claims 32, 33, and 41-43 under 35

U.S.C. 112 first paragraph. Claim 32 has been amended to overcome this objection. Claim 33 has been canceled. In addition, claim 41 has been canceled while claims 42, and 43 have been amended to overcome this objection. Furthermore, the applicant believes that the last paragraph on page four provides sufficient support for claims 42 and 43. In particular this paragraph states:

*A filter array and a dichroic beam splitter can be provided in a microscope before the stimulating light coupling. The preferably narrow band filter ensures that this stimulation light only selected wave light reaches the sample volumes on the microscope's specimen slide and that this light passes through the dichroic beam splitter.*

The applicant believes that because that this passage indicates that the light can either pass through or be reflected by the beam splitter and thus, the applicant believes that this rejection should be removed.

The Examiner has rejected claims 22-33 and 35-43 under 35 U.S.C. 112 second paragraph. Claims 22, 42 and 43 have been amended to overcome this rejection.

The Examiner has rejected claims 22-31, 42 and 43 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,537,247 to Xaio in view of U.S. Patent No. 5,192,980 to Dixon and Quian

(Applied Optics, 30: 1185-1195 April 1991).

Claim 22 and 42 and 43 have been amended to overcome this rejection.

In view of the amendments to claims 22, 42, and 43, the applicant respectfully traverses this rejection. In particular, the Examiner states that *Xiao* lacks that the lens array (37 or 38) is for focusing an emission of light on said detector (21, or 22 respectively) and that the module (10) is used as a fluorescence correlation spectroscopy module. In addition, in view of the above amendments, *Xaio* also does not disclose that there are a plurality of dichroic beam splitters disposed in the support body with a pinhole disposed between a first dichroic beam splitter and at least a second dichroic beam splitter, wherein the array of dichroic beam splitters is particularly advantageous such that it provides a cross-correlation with two color channels with which the reciprocal relationships between colorant particles in the solution can be investigated as described in the specification on page 5 lines 27-29. This design and alignment of optical components allows for a physically compact unit which provides for a good degree of reproduction of results as stated in the specification on page 8 lines 21-25.

In addition, with only one pinhole disposed between these two dichroic beam splitters, there is less chance of having vibrations create miscalculations in any reading or view. With *Xaio* as shown in FIG. 6 the only pinholes (50, 55, 56, 57) shown are shown both before and after the beam splitters 41, 42, and 43 shown in *Xaio*.

With regard to claims 42 and 43 as amended, *Xaio* and the other cited references do not disclose removable receptacles that can be selectively removed and replaced or rotated approximately 180° and then re-inserted to allow for rapid frequency selection. In contrast, the Examiner states that *Xaio*, in column 5, lines 31-34 discloses that the dichroic beam splitters may be mounted on a sliding mechanism for selecting beam splitters having different spectral characteristics. The applicant believes that these receptacle holders are entirely different from a sliding mechanism such as a dovetail slider mentioned in column 5 lines 28-31. Sliding mechanisms such as a dovetail slider would only relate to a device that allows objects to slide on a track.

In contrast, removable receptacle holders may be inserted into and pulled out of the cavities of the support body, but because these receptacle holders are entirely removable from the support body, they have much different functionality. In particular, these

receptacle holders allow each of the plurality of optical components to be removed and placed in a different order in these cavities, or removed and rotated 180° within these cavities to provide different spectral qualities. This design also allows the microscope to be easily upgraded by removing individual optical components in their respective receptacle holders from the support body. Thus, the applicant believes that because these optical components are disposed in these removable receptacle holders, claim 42 is patentable over the above cited references.

In addition, claim 43 was amended such that not only are the optical components removable from the support body, but also a mirror is removable from the support body using the removable receptacle holders. In *Xaio*, Column 5 lines 31-33 only disclose that "*beam splitters of different spectral characteristics may be mounted on a sliding mechanism to allow users to switch among beam splitters without additional alignment*". Since *Xaio* also does not disclose that a mirror is removable and insertable into a support body, the applicant believes that claim 43 is allowable over the references cited taken either singly or in combination.

The Examiner has also rejected claims 35-38 under 35 U.S.C.

103(a) as being unpatentable over *Xaio* in view of *Dixon* and *Qian* as applied to claim 22 above and in further view of *Schaltz*.

The applicant respectfully traverses. *Schaltz* discloses holding elements that contain optical components which are disposed on a carrier shaped as a slide in module. However, *Schaltz* does not disclose:

*a support body having a plurality of cavities aligned along a beam path*

Instead, *Schaltz* discloses only one cavity or opening for one slide-in module containing multiple optical components. The above described feature of the present invention as claimed in claims 42 and 43 is important because it allows different combinations of different optical components within the microscope.

For example, with the design of the present invention as claimed in claims 42 and 43, an optical component in a first removable receptacle can be removed, while an optical component in a second removable receptacle can also be removed and these two different optical components can be reinserted into the support body in a different order along the beam path. With this design,

different combinations of different optical components can be achieved without any unnecessary duplication of these optical components. With the design of Schaltz, because the different optical components are all on one carrier aligned in the same beam path, more optical components are needed for the same effect. In fact, *Shaltz* teaches away from the concept of claims 42 and 43 because *Schaltz* discloses that the different optical components in the carrier are "*pre-aligned and completely assembled parts of the same type but different optophysical function*" as stated in column 2 lines 62-64. Thus, the applicant believes that claims 42 and 43 are patentable over the references cited taken either singly or in combination.

In addition, new claim 44 includes many of the elements of claim 22 and the applicant believes that this new claim 44 is patentable over the references cited. This is because this new claim 44 states that the pinhole array consists of only one pinhole that is positioned just within the emission light beam path and not within the stimulation light beam path. This is because the pinhole of the present invention in claim 44, is behind the beam splitter. Thus, this single pinhole operates much differently than the multiple pinholes of *Xaio*. The result that the present invention as stated in claim 44 has only one pinhole is important

because it allows for a more simplified module than that of the references and also it reduces the harmful effects of multiple pinholes vibrating within the designs of the references. If a module has multiple pinholes, each component may vibrate or move in response to an outside stimulation which could create an imperfect reading from the microscope. Because there is only one pinhole provided in claim 44 this feature dramatically increases the reliability of the device according to claim 44 rather than that of *Xaio* or any other reference cited.

The applicant believes that new claim 45 which depends from claim 44 is also allowable because with this design, there is produced a focal point in a stimulation beam path before the beam splitter. This focal point is important because it allows for easy and particular focal adjustments of the stimulation light beam to achieve a desired result of accurate viewing.

Similarly, independent claims 46 and 47 discuss this feature as well. Claim 46 describes that the beam splitter is positioned for confocal division of the stimulation light beam while claim 47 describes the focal point of the stimulation light. The applicant believes that dependent claims 48 and 49 are also patentable over the above references. In particular, claim 48 depends from claim

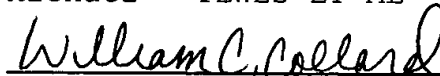
independent claim 44 which the applicant believes to be allowable, while claim 49 depends from claim 45 wherein none of the above cited references show that the module has only one pinhole that is disposed at the second focal point after the beam splitter.

Claims 26, 27, 29, 30, 33, 34, and 41 have been canceled without prejudice. Claims 22, 23, 24, 28, 32, 35, 37, 38, 40, 42, and 43 have been amended. In addition new claims 44-49 have been added. Since new claims 44, 46, and 47 are independent claims the and the total number of independent claims numbers 6, the commissioner is authorized to charge deposit account 03-2468 any fee for additional claims. In addition the commissioner is also authorized to charge that deposit account for any fee deficiency for any additional costs associated with this amendment.

The applicant believes that the remaining claims are written to overcome the rejections of the Examiner. Accordingly, the applicant respectfully requests early allowance of the remaining claims.

Respectfully submitted,

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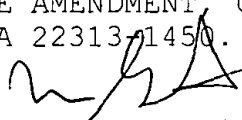
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I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10, on the date indicated above, and is addressed to the MAIL STOP: FEE AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



Maria Guastella

\*note the above date was changed from the 14<sup>th</sup> to the 15th because of the blackout to the New York Area and the post offices shutting down. The applicant originally tried to mail this Amendment on the 14<sup>th</sup> day of August, 2003.



William Collard

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